

# System 140



**WICAT**systems

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## WICAT SYSTEMS: SYSTEM 140

The WICAT System 140 is a powerful, desktop, single-user system that offers an impressive price performance ratio. Included in a single, trim, desktop unit is the processor, memory, CRT, storage, and storage backup.

The S140 has 512 Kbytes of Dynamic RAM and memory mapping registers. Mass storage includes a 10/15-Mbyte Winchester disk drive and a 5¼-inch floppy disk drive for backup.

With the ability to run all of the software currently available for use on WICAT equipment not exceeding 512K memory requirements, the WICAT System 140 is an ideal small business system, dedicated personal computer, or node within a network. The combination of high performance, low cost, and readily available software provides a cost effective, easy to implement solution to data processing needs.

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### PROCESSOR

- MC68000L8, 8MHz (approx. 1 million instructions per second)
- 16-bit processor (32-bit data operations)
- Memory management
- 7 vectored interrupt levels

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### MEMORY

- 512 Kbytes of dynamic parity RAM
- 16 Kbyte of EPROM

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### PERIPHERALS

- Intelligent disk controller
- 10/15 Mbyte 5¼-inch Winchester disk
- 630 Kbyte 5¼-inch floppy disk drive (formatted)
- 1 RS-232 C serial interface (9600 Baud)
- 16-bit parallel printer port

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### SYSTEM SOFTWARE

- Multi-user Control System (MCS): A real-time, single-user, multi-tasking operating system
- Operating System Options: UniPlus+\* (UNIX\*), CP/M Emulator\*
- Language Support: APL,68000\*, Assembler, W-BASIC, SMC-BASIC, C, RM-COBOL, LEVEL II COBOL, FORTRAN 77, and PASCAL
- Major Applications: Office Information System (word processing), UltraCalc, and WISE (courseware development system)

# System 140 Hardware Specifications

## DIMENSIONS

Height	16 in.
Width	19 in.
Depth	16½ in.
Weight	50 lbs.

## ENVIRONMENTAL AND SAFETY

### Safety

Designed to meet UL 478 (EDP) and 114 (office equipment), and CSA 154 (EDP) and 143 (office equipment) requirements.

### RFI/EMI

Complies with FCC Rules & Regulations, Part 15, Subpart J, Class A.

### Operating Temperature

50 to 95° F.  
10 to 35° C.

### Operating Humidity (noncondensing)

20-80%

## ELECTRICAL

### AC Power Capacity

47-440 Hz

### Voltage

Either 90-132 VAC or 180-264 VAC strappable

### Power Supply Efficiency

75% Typ.

## TIMING

### Processor Clock

8 MHz

## 10/15 Mbyte Winchester Disk Timing

### Access Time:

Track to Track	2 ms.
Average	87 ms.
Maximum	175 ms.
Transfer rate	625 KBytes/sec.
Rotation	3600 rpm

### Floppy Disk Timing

### Access time

Track to Track	5 ms.
Average	132 ms.
Maximum	262 ms.
Transfer rate	31 Kbytes/sec.
Rotation	300 rpm

### Serial I/O Rate

50 to 9600 baud

# System Software

## OPERATING SYSTEMS

### The Multi-user Control System (MCS)

Users have simultaneous access to the system (multi-user), and each user can run several processes simultaneously (multi-tasking).

Command files and parameter files that contain lists of commands (script) or parameters can be executed as though the operator were typing them.

Logical Input/Output.

Input/Output redirection.

Named pipes.

75 standard utilities including a screen-oriented text editor, SORT/MERGE, incremental system backup.

Subdirectories (hierarchical) to any level.

File versions.

Logical names.

A variety of user interface programs. The standard interface is expandable and includes command line editing, prompted parameter entry, on-line helps, and parameter.

Keyed Sequential Access Method (KSAM).

Memory management also allows the following:

Processes can share pages of memory1.

Pages of logically addressed memory can be write-protected.

All user processes share a uniform context.

Noncontiguous physical memory pages appear as contiguous logical memory pages (within a 2MB limit).

User processes are isolated from each other as well as from the MCS.

The text, or code, segment of a process being used simultaneously by several users is write-protected and shared automatically.

### WICAT UniPlus+

WICAT's UniPlus+ system derives from the UNIX\* operating system and combines a complete set of basic utilities with a set of powerful mechanisms that allow the user to create new commands. The UNIX system is self-contained and therefore adaptable to numerous new processors and hardware systems.

WICAT has source licenses with AT&T for UNIX Version 7 and UNIX System III. The kernel and utilities for WICAT's UniPlus+ are essentially those of UNIX Version 7 from Bell Laboratories. In addition to enhancements made by WICAT Systems, UniPlus+ includes the enhancements of UNIX System III, and the 4.1 Berkeley Standard Distribution.

Utilities and subsystems include:

C Shell	(command processing language)
vi	(visual display editor)
SCCS	(Source Code Control System)
curses	(screen management library)
nroff, tbl	(document preparation)
yacc, lex	(language development)
uucp, cu	(UNIX networking)
badblk	(handling bad blocks)
mt	(Berkeley mag tape)

## APPLICATIONS

### Office Information System (OIS) Word Processing

This flexible word processing system, with editing and formatting capabilities, includes pagination, search and replace, automatic page numbering, cut and paste, right justification, a spelling dictionary, and other essential functions.

### UltraCalc

UltraCalc, a versatile electronic worksheet, allows you to manipulate and analyze tabular data using graphs, automatic recalculations, 15-digit arithmetic, and advanced math functions. These features simplify economic forecasting, trend analysis, and other computations.

### WISE

WISE is a courseware development system that allows the nonprogrammer to use text and graphics editors as well as instructional design features to create sophisticated instructional programs. WISE eliminates the need for an intermediary programmer to develop computer-operated lessons on any subject.

### SEQUITUR

This relational database management and word processing system is totally screen-oriented and offers fully integrated editing and relational data manipulation. Sequitur also provides unprecedented versatility for entering data; generating reports, forms, and mailing lists; and using word processing to manage documents.

## LANGUAGES

### Assembler

The WICAT 68000 Assembler processes files at 2000 lines per minute. It supports the standard mnemonics and pseudo-instructions in Motorola's portable cross assembler to transport applications quickly and effectively.

### APL.68000

APL.68000 is the first APL interpreter for the MC68000 microprocessor. It supports a powerful file system, formatter, and IEEE floating point arithmetic.

## C

The WICAT C compiler derives from the standard UNIX\* C compiler and comes with full standard I/O and math libraries. This low-level language allows easy access to the operating system and hardware, as well as to FORTRAN and Assembler.

### FORTRAN77

FORTRAN77 is a GSA-validated, full implementation of the ISO standard. FORTRAN77 has an enhanced I/O and program structure and still supports the FORTRAN 66 standard.

### PASCAL

WICAT's PASCAL compiler produces an optimized native 68000 code. Extensions to the ISO standard include random file access, UCSD-compatible strings, and liberal-set capability.

### W-BASIC

W-BASIC is WICAT's new enhanced BASIC programming language. It is fully Microsoft compatible and complies with the ANSI standard for BASIC. Availability for both MCS and UNIX operating systems gives W-BASIC ease of use and broad application for both scientific and educational use.

### SMC-BASIC

SMC-BASIC is a Business Basic that retains the simplicity of the original Dartmouth BASIC, yet includes enhancements that make the language particularly simple and easy to use for business applications.

### RM-COBOL

RM-COBOL is an implementation of the ANSI 74 COBOL standard, designed for the efficient development and execution of COBOL business applications. RM-COBOL has the features commonly required by minicomputer and mainframe applications.

### LEVEL II COBOL

WICAT is the first to offer this GSA certified high-level COBOL compiler for use on microcomputers. The compiler offers the user a broad range of COBOL business applications at the highest possible level. An optional native code generator allows greatly increased speed and efficiency of execution.

\*Multibus is a trademark of INTEL Corporation.

\*CP/M is a trademark of Digital Research.

\*UniPlus+ is a product of Unisoft.

\*APL.68000 is provided by The Computer Company.

\*Sequitur is a trademark of the Pacific Software Manufacturing Co.

\*UNIX is a trademark of Bell Labs.